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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,873	06/15/2000	Fabienne Betting	14XZ00087	8908

7590 11/16/2005

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EXAMINER

YANG, RYAN R

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/594,873

Applicant(s)

BETTING ET AL.

Examiner

Ryan R. Yang

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is responsive to communications: Amendment, filed on 7/17/2005.

This action is final.

2. Claims 1, 3, 5, 7, 9, 11 and 12 are pending in this application. Claim 1 is independent claims. In the Amendment, filed on 7/17/2005, claims 1, 3, 5, 7, 9, 11 and 12 were amended, claims 2, 4, 6, 8 and 10 were canceled.

This application claims foreign priority dated 6/21/99.

3. The present title of the invention is "Method of visualization of a part of a three-dimensional image".

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 7 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yanof et al. (5,734,384)

As per claim 1, Yanof et al., hereinafter Yanof, discloses a method of visualization of a three-dimensional image comprising:

Displaying the three-dimensional image (Figure 2, item 22 is a three-dimensional image of an artery and 46a is a view point);

Selecting a point on an element of interest present in the three-dimensional image ("moving the origin cursor to a voxel within region 36 using any of the reprojection or section views as a reference guide ... the reprojection views shifts such that the voxel associated with the origin cursor is screen center", column 7, line 6-13);

Creating in a part of the three-dimensional image a volume whose dimensions are predetermined and whose center is the point on the element of interest ("the reprojection views shifts such that the voxel associated with the origin cursor is screen center", column 7, line 11-13; Figure 22 is a predetermined image);

Making an interactive intersection between the predetermined volume and the part of the three-dimensional image; and visualizing only the part of the three-dimensional image contained in the predetermined volume (Figure 2 where the function Pan and Zoom makes the interactive panning and zooming of the image).

6. As per claim 3, Yanof demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses the predetermined volume can be displaced in the three-dimensional image according to a translational motion, while displaying only the part of the three-dimensional image contained at each instant in the predetermined volume ((Figure 2 where the function Pan and Zoom makes the interactive panning controls the translation motion and zooming controls size of the image).

7. As per claim 7, Yanof demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses once a part of the three-dimensional image is visualized in the predetermined volume, the dimensions of that predetermined

volume can be modified by an operator (Figure 2 where the function Zoom makes the can adjust the size of the image).

8. As per claim 11, Yanof demonstrated all the elements as disclosed in the rejected claims 1, and further discloses once the point is selected on the element of interest, a translation of the three-dimensional image is made, so as to place the point in the center of the three-dimensional display window ((“moving the origin cursor to a voxel within region 36 using any of the reprojection or section views as a reference guide ... the reprojection views shifts such that the voxel associated with the origin cursor is screen center”, column 7, line 6-13).

9. As per claim 12, Yanof demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses the point is selected by means of a cursor (“moving the origin cursor to a voxel within region 36 using any of the reprojection or section views as a reference guide”, column 7, line 6-8).

### ***Claim Rejections - 35 USC § 103***

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanof et al. as applied to claim 1 above, and further in view of Bamberger (5,970,164).

As per claim 5, Yanof demonstrated all the elements as applied to the rejected independent claim 1, supra.

Yanof teaches displaying of a selected 3-D image, it is noted that Yanof does not explicitly disclose that any part of the three-dimensional image not contained in the cylinder is displayed in degraded mode. However, this is known in the art as taught by

Bamberger et al, hereinafter Bamberger. Bamberger teaches a medical diagnosis system in which "desired portions of the digitized image for further image enhancement according to a desired image enhancement feature selectable from a plurality of image enhancement features" (Abstract).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Bamberger into Yanof because Yanof teaches a selective 3-D image displaying method and Bamberger teaches methods of enhancing the image of the region of interest (thus, the rest of the area looks degraded) in order to make a more accurate analysis of the image data.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanof et al. as applied to claim 1 above, and further in view of Endo et al. (6,169,552).

As per claim 9, Yanof demonstrated all the elements as applied to the rejected claim 1, supra.

Yanof teaches displaying of a selected 3-D image. It is noted that Yanof does not explicitly teach the predetermined volume is a sphere whose diameter is equal to half of the width of the three-dimensional image display window and the center point of the intended image is at the center of the screen, however, this is known in the art as taught by Endo et al., hereafter Endo. Endo teaches an image displaying method in which "half of the display frame is set as a window, and the original display frame is shifted so that the center portion on the other half display frame is coincident with the center portion of the original three-dimensional map which has been displayed before the window is displayed" (column 28, line 44-49).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Endo into Yanof because Yanof teaches an image displaying method and Endo teaches the intended image can be displayed at the center and occupy half of the screen for the better viewing of the intended image.

### ***Response to Arguments***

12. Applicant's arguments, see Amendment, filed 7/17/2005, with respect to the rejection(s) of claim(s) 1, 3, 5, 7, 9, 11 and 12 under Neff et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yanof et al. (5,734,384).

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


### ***Inquiries***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ryan Yang  
Primary Examiner  
October 20, 2005